



VOL. I.—No. 8.]

MAY, 1854.

[THREEPENCE.]

THE PALACE AND EDUCATION.

We have often wondered at the strange apathy displayed by our universities and public schools towards Museums of Art and Science. Oxford has, as yet, nothing which strictly is due to it as a university—the Ashmolean, the Radcliffe, and Taylor Museums are the munificent creations of individuals. The range of them is narrow and limited. Cambridge, although devoted to physical science, has but partially culled from the rich vintage. Oxford, Cambridge, Trinity Dublin, and the minor universities, would scarcely be able to make up a decent museum by clubbing together all that they possess. The students of each must travel for what they want. The student of nature and art must become a vagabond if he be poor—he must expend a handsome income in travelling if he be rich. Few English students have the courage and patience of the plodding German, who will go through the weary pilgrimages, gladdened by the simple luxuries of a pipe and a cup of coffee, and contented with a crust of bread and cheese. His feet are shod with hobnail shoes; he bears in his hands a trusty staff, and sighs not for that railroad speed which would rob him of half the objects on his way.

If, however, travel be an impossibility for our university students, still less is it likely that the promising boy at Eton, Harrow, Rugby, or Winchester, will be able to surmount the impracticability. He is dependent on the movements of his parents or friends. He has occasional chances, and occasionally profits by them; but, generally speaking, his diagnosis is confined to the properties and qualities of a cricket-bat, of a boat, or of a horse. He sees little, and thinks less, of art and science.

In ordinary private schools, the difficulty is almost insurmountable. It is true that in some private establishments more is taught than ever could be acquired in any public foundations but no ordinary schoolmaster can, or could be expected to form large collections of specimens, diagrams, and models. Few parents pay more annually than would suffice for decent food, competent attendance, and ordinary teaching. Perhaps a very large capitalist might safely venture

on a bold investment in the apparatus of teaching, and call into existence a huge manufactory of intelligence. We think it might pay, if he could find men to work it; but we doubt the practicability of the undertaking in the present state of society.

We believe that intelligent boys are capable of absorbing much more information than is generally supposed possible. We do not suppose that geology could be taught by books; but we know that children are capable of understanding much when specimens are put before them. It is difficult to *paint* granite, or red sandstone, or *lias*, or *gault*, in words—produce a specimen, and the difficulty vanishes in an instant. The same remark we find strictly applicable to mineralogy in its narrower signification. Natural history cannot be acquired from books, although much help is afforded by engravings. One may realize the relative shapes, magnitudes, &c., of the animals of a former world at a glance as placed in the grounds at Sydenham. One could not impart this to a boy without such invaluable assistance.

Botany is another science which requires a good collection of objects. It is not enough to reckon up pistils and stamens by Greek nomenclature, and to produce a due amount of juvenile curiosity as to the sexual system of plants and flowers. We rather dread the developing tendencies of Linnean teachings. On the other hand, we do not remember to have seen much scientific inquiry stimulated at the fetes in the Botanical Gardens, whilst the bands of the Horse Guards and Coldstream furnish so much counter-excitement. The artificial flowers on the dresses of the ladies drew forth much more discrimination from the promenaders. Such, perhaps, may be the fate of the costly collections at Sydenham; but we still think that young people will involuntarily learn the distinction between a cabbage, an aloe, and an artichoke. We hope no cicero will teach them anything about any—andrias or—gamias whatsoever.

The same remarks will apply to the stuffed animals and birds. A good taxidermist can do wonders. He can attain the same ends, and obviate a world of expense. Living specimens of foreign birds convey but a poor idea of their natural habits when pent up in a cage in some zoological garden. Some of those poor, wretched things standing on one leg in a puddle in the

Regent's Park gardens, are deplorable objects. They would be just as well stuffed, and stuck upright in a hand-basin. We hope, too, that all objects at Sydenham will have plain names attached to them. Living birds cannot strut about with tickets round their necks like decanters of sherry and port. We once rode behind a cockney on the old Banbury coach, and when we came to Amersham, the metropolitan genius pointed to a social party of crows in a field, and inquired of the coachman if they were not pheasants. On further investigation it appeared, from his own emphatic assertions, that he knew perfectly well what they were, but had unfortunately forgotten the name. It is to obviate little errors like these that we venture to suggest a plain superscription. We heard an old lady the other day, whilst gazing at the Alhambra of Mr. Owen Jones, pronounce the Pompeian style therein to be exquisite, and wish she were a Roman that she might live in such halls. By all means let us have *large, very large* tickets. Great as Irish bulls are, they may be surpassed by a gigantic species of Ninevite extraction.

The eye to appreciate art cannot be trained in a day, a month, or even a year. Moreover, our youth must be rendered sensible to it, and susceptible of it, before we can hope for much of national growth. We think that the observant boy who occasionally wanders amidst these light and airy halls will insensibly acquire a refined and discriminating faculty. His ideas of form cannot fail of being rectified by the number and variety of the works of the ancient sculptors. His ideas of colour will, probably, be shocked or stimulated into active exertion. He will be prompted to study history—for every relic of the past forces us to inquire into antiquity. He will acquire such a general knowledge of the useful arts, and of common things, as will carry him through any ordinary topic of conversation without effort. He may then advance to stricter studies in any particular department with ease and gratification; and we shall be much mistaken if he do not remember his magnificent nursery with feelings of deepest gratitude to the last day of his existence.

Errors and shortcomings must exist in everything human. We are not called on to maintain the faultless accuracy, the unquestionable propriety of everything done, or to be done, in the Crystal Palace. Ours is a nobler office. We believe with Plato that the highest aspirations of the soul are for the beautiful and the good. We would endeavour, as pioneers, to clear the way, or, like the hero-youth in Longfellow, we would strive that our unfaltering voice might ever raise the stirring cry—"Excelsior!"



JOURNAL OF THE CRYSTAL PALACE.

SOME of the machinery in motion has already arrived, which will be placed in the basement.

The galleries have tables fixed for goods; and of the seven Industrial Courts, the only one that has not been commenced is the French Court, which, we understand, on account of the time being so limited, will be only of a temporary description at present; the façades of some of these Courts display great taste in their designs. The Stationers' Court seems the most finished: this, we believe, was designed, and has been erected, under the direction of Mr. Craze. The Birmingham Court is the next, and is a very light, elegant design by Mr. Tite. The Sheffield Court follows, and is situated between the Birmingham Court and the Pompeian House: this was designed by Mr. G. H. Hokes, the son-in-law of Sir Joseph Paxton, and every exhibitor is familiar with it by the coloured lithograph taken from his drawing. Crossing the nave, the first Court adjoining the Natural History and Horticultural department is to be devoted to musical instruments, and has been erected from a design by Mr. J. Thomas. Above the arches of the enclosure are panels for relieves, and circular spaces for medallions of celebrated composers and musicians. The next Court is designed by Messrs. Banks and Barry: it is intended for printed fabrics; the adjoining one, for woollen goods, is different from the rest, and has a covered ceiling, and a sort of square tower, with stalls before the front entrance. We rather like this design, which is under the guidance of Mr. Semper; its ornamental decorations are novel, and in good taste. In the south transept is Charing Cross, King Charles I. is seated on horseback, towering amongst Norfolk pines and camellias blooming around, with the gigantic creeper, called the Chinese twiner, as it reclines along the columns, iron girders, and tie rods. Here, too, may be seen black, brown, and yellow skinned men and women—Australians, Africans, Americans, Indians, and Hottentots—grouped with elephants, tigers, caméléopards, giraffes, camels, bears, antelopes, kangaroos, jaguars, and birds of almost every description, forming a splendid collection, and reflecting great credit upon the manipulators. This portion of the building will attract the attention of all, old and young.

The Pompeian House is nearly finished, the various patterns of tessellated pavement and marbles are nearly all fixed. The nave has the basins or aquariums completed at each end for the fountains; Portland cement concrete is the material used for lining the bottom of them. The whole of the boarding is laid down excepting at the centre transept, which is also rapidly proceeding. It is intended to alter the original arrangement, so that nothing lofty shall intervene, excepting the transparent water from the fountains, to arrest the view from end to end of the nave. The pedestal and Bavarian head, the Choragic monument of Lysicrates, and other large works, are judiciously removed. They will be arranged on each side of the centre transept, with groups of statues and busts under the galleries where the courts have left an open space, which will also be varied with rare and choice plants, trees, and shrubs, mixed together, forming a pleasing combination of nature and art; large clumps of trees with a proper soil are also prepared, forming a kind of bank or mound whereon the various convolvulus, woodbines, ivy, and other parasitical plants may creep and entwine themselves. The façades of all the various Courts on each side the nave are approximating to a finish. The Assyrian Court has all the upper part decorated, the cornice, parapet shafts, capitals, and bases of columns; and the lower part, such as the winged human headed bulls and large figures, are being coloured. The interior of the Assyrian Palace seems hardly possible to be finished by the end of May, but the exterior is quite sufficient to give some idea of the peculiarities of the inhabitants of Babylon, Nineveh, and Persepolis, which bespeak physical power, dominion, desire for conquest, by their firmly planted feet and massive sinewy limbs, the powerful wings, and the giant figure, crushing the cub under his arm. The painting of the avenues of sphinxes is nearly finished, and the

large gigantic figures are at present only headless, a fortunate circumstance; they are sitting and cannot rise, or else the crystal roofing of the Palace would all be broken, if not lifted up. The ancient Egyptians, no doubt, were a grand people; they had such great notions, and were mighty, at all events, in their sculptured works. The Egyptian Court is fast progressing; the principal room is in the shape of a quadrangle, it has eight colossal standing figures of kings, their hands are crossed on their breasts and they hold the crook, the patriarchal sceptre, and the three-lashed scourge. In this room is placed the Rosetta stone, the key to the first deciphering the hieroglyphics. All round the parapet are painted crimson suns with vulture wings. The pillars are decorated with indented outlines of figures and hieroglyphics coloured. The capitals are varied, some simply square, ornamented with a cinque-foil golden star, others lap over like lotus buds, and the bases have triangular ornaments variously coloured, resembling a plant common to the banks of the Nile.

The room of the Ptolemy period is much less massive, but lighter and more elegant. The roof is painted a deep blue, and spangled with stars.

The Egyptian, the Roman, and the Greek Courts, will all be sufficiently advanced for the inspection of visitors. The latter contains casts from sculptured gems that have ever been, and still are, idolized for their exquisite beauty of form, majesty, grace, elegance, manliness, or strength—a symmetry in their shape, and a knowledge of the human figure, never since attained by any nation.

The Alhambra is beginning to put forth its beauties, but we are afraid it cannot be completed within the time. The Hall of Lions, with its alabaster fountain, supported by twelve carved lions—its tessellated walls illuminated gorgeously with the most brilliant colours—the fragile frost-works of the colonnades, and the pierced trellises of the alcoves—the fretted arches and honey-combed roofs. In the various rooms descriptive of this period may now be seen costly arabesques, gilded trellising, richly coloured and gilded patterns, gold and azure honeycomb; geometric ornamentation, imitations of the stalactite pendants of caves, a startling reproduction of Eastern splendour when in all its glory. What sad remembrance is forced upon the mind at the view of these Courts—the Assyrian, Egyptian, Grecian, Roman, Pompeian, and Alhambra. The Moors were known only to the few who travelled or read, but now will they be known to all. Notwithstanding their knowledge, taste, and capabilities, where are they now? and how have we become acquainted with these ancient people? The inhabitants who reside in the countries where they once dwelt are not like them—they do not possess their characteristics—they are gone, as it were, for ever, but portions of their works remain, by which they can be judged—some recovered by excavations, as those of Nineveh and Babylon, or by their durability, as those of Egypt, Greece, and the Alhambra. These ruins and fragments have been studied by travellers who have spent their lives in searching for information from the productions which time does not destroy, and the hieroglyphics and Oriental languages cut on their surfaces have been, after great labour, understood and translated—most of which in the People's Palace has been resuscitated for the instruction of those willing to learn something of the mighty nations of this earth.

The Courts on the opposite side are taken from what historians have called the dark ages, though the specimens selected do not favour that view of the question. The Byzantine Court is the first, and it has nearly all the fixings completed, and the coloured decorations are far in advance; next to this is the

German Gothic Court. This Court, we fear, will not be complete at the opening of the Palace. The Mediæval Court follows this Court, and it ought, and we have no doubt will, be a great attraction to visitors, as it is the product of our national mind, and is deeply imbued with our national predilections. There is much in this Court to touch the feelings and interest the mind. Religion being the stimulus to arouse the monks—the architects in those days—to attempt to portray divine and human love in their representa-

tions of the Saviour and the Virgin, the mother and the son, and other portions of the sacred writings, and also of their faith, has given a subdued and devotional expression to most of us within the precincts of Gothic architecture. Who is there but can remember, as he traversed the long drawn aisle, the emotions he felt, unusual at other times, which will be rekindled in some, who see examples of what they had often gazed on at Rochester, Tintern, Lincoln, Hereford, Lichfield, or Westminster? This Court we hope will be finished, yet ought not to be hurried. Now we enter the Renaissance Court. How different to the Mediæval! Everything here is done to fascinate the senses. Carved forms of satyrs, cupids, birds and foliage in endless variety. The walls are decorated with coloured tracery, and gilded. The Ghiberti gate is bronzed, and the figures of Diana and the stag over the entrance door. The corridor of the Court is ornamented with a painted ceiling, from the Exchange at Perugia, and was designed by Perugini. The Elizabethan portion of the Renaissance Court is selected from Holland House, and contains monuments from Westminster Abbey of Queen Elizabeth, Mary Queen of Scots, the celebrated Countess of Richmond, Sir John C. Leney, and Henry VIII. The decoration of this Court consists chiefly of a curious muster of scroll work, imitation marbles and medallions, in different varieties of colour. The Italian Court will depend for its attraction principally upon the figures by Michael Angelo, and the paintings on the columns, pilasters, and friezes. The varied patterns of marbles, and the ceiling, are well contrasted by the cool decoration of the vestibule, which has no architectural ornamentation, but is painted in bas-relief on a blue ground, with small Sienna marble panels intervening. The frieze above the cornice is well painted with subjects of boys fighting, playing at blind man's buff, &c. The chief works by Michael Angelo are the "Dead Christ," his "Saviour and Virgin," "Pieta," "Bacchus," his fine figure of "Cosmo de Medici," and the figures of "Twilight" and "Dawn" from the Medici Chapel at Florence. The centre of this Court will contain a fountain from the Piazza di Tartarughi, at Rome.

LATEST INTELLIGENCE.

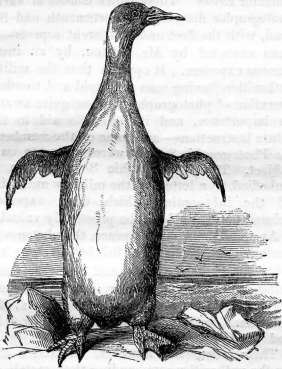
The apartments appropriated to the Royal Suite will be at the northern wing of the Crystal Palace, and facing the reservoir. They consist of a lobby; Prince Albert's apartment is to the right on entrance, raised two steps higher than the lobby; the waiting-room for the equerries adjoins Prince Albert's room; to the left is the lady attendants' room; and adjoining this is the private apartment of her Majesty Queen Victoria.

Sir Joseph Paxton; Mr. Laing, M.P.; Mr. Boothby; and Mr. Grove, secretary, had an interview with the Emperor on Monday at the Tuileries. His Majesty expressed great interest in the success of the undertaking, and promised to send contributions from the imperial manufactures of Sevres, the Gobelins, and Beauvais. He also said that a deputation fully representing France should be present at the opening of the Palace next month. The rumour at present is that the Emperor of the French will also be at the opening of the Crystal Palace at Sydenham. Mr. Schallehn, late bandmaster of the 17th Lancers, and now musical director of this national establishment, has engaged a band of sixty performers on wind instruments, and they will commence rehearsals from May 1st, ready for the grand opening.

An alteration has been made in the nave; all the large works have been removed, and the Bavarian head, on the high square pedestal, has been placed at the south side of the central transept, where the German and English sculpture is ranged, and across the nave opposite are statues, &c., of the French and Italian school. The Greek and Roman Vestibules are completed and cleaned, and nearly all the statues, figures, and busts are placed on their pedestals. Mr. Jennings will have completed all his engagements in the Byzantine Court previous to the opening. Mr. Dudley is energetically carrying out the completion of the Mediæval Court; and Mr. Richardson has nearly finished his restorations from the Wells Cathedral. The Renaissance and Italian Courts are proceeding rapidly; some

choice groups of flowers and fruits are being beautifully painted on a blue ground in the Italian Court. The human-headed bulls of the Assyrian Court come out forcibly with their brownish red bodies, with black stripes and yellow hoofs, the curly black beards from the heads look well, and the wings seem improved by the addition of colour. The whole of the Natural History and Ethnological Department have left Sydenham-place, and are now in the Palace, only awaiting their arrangement in groups. The exact day for the opening is not fixed, but it will be towards the end of May. The holders of season tickets only will be admitted on that occasion, which can be procured at the west end and city offices of the Company, at the London-bridge terminus of the Brighton Railway, and at Mitchell's, Sam's, and Westerton's libraries. Two kinds of season tickets will be issued—one sold for two guineas, admitting to the building and grounds; the other at four guineas, and including the railway conveyance. Families taking two tickets of either kind will be allowed ten per cent. discount; taking three, fifteen per cent.; four, twenty per cent.; and five and upwards, twenty-five per cent. Mondays, Tuesdays, Wednesdays, and Thursdays, are shilling days; Fridays a half-crown day; and Saturday a five shilling day. The whole cost of visiting the Palace on the shilling days, with conveyance there and back by the Crystal Palace Railway, will be, for first-class passengers, 2s. 6d.; for second, 2s.; and for third, 1s. 6d.; children under twelve years of age being admitted at half these rates. The building and grounds will be opened on Mondays at nine o'clock; on Tuesdays, Wednesdays, and Thursdays at ten; and on Fridays and Saturdays at twelve. The new road facing the Palace on one side and Dulwich Wood on the other side is nearly finished. Amongst the waggons loaded with figures, birds, and beasts, carried away from Sydenham-place, was one with an elephant, which was obliged to be hauled up with a pulley, and required twelve men to place it on the wagon, and the fair charge was then triumphantly carried off to its home amongst the other denizens of various climes to charm the visitors at the People's Palace.

THE PENGUIN.



NATURAL HISTORY.

LINKS OR CHAINS OF REPTILES, BIRDS, AND MAMMALS.

This paper will confine itself chiefly to the connexion, or supposed connexion, between reptiles, birds, and beasts, as put forth in many treatises on natural history.

The birds and mammals selected have been the penguin, the flamingo, the swift, and the bat. A short description of the peculiarities of each, and the engraved examples, may perhaps better elucidate our convictions upon this subject of connecting links, a classification from which we beg to differ. Our experience clearly indicates to us that the Mosaic account is the most accurate. "God created great whales, and every living creature that moveth which the waters brought forth abundantly, after their kind, and every winged fowl after his kind." Again: "God

made the beast of the earth after his kind, and cattle after their kind, and everything that creepeth upon the earth after his kind."

The penguin, which is a name derived from its fatness, is an aquatic bird found in the Antarctic seas. Its body is quite upright when the bird stands on the ground, on account of its feet being placed so far back, and its short legs. The wings are too small for the bird to fly, and the feathers are short, stiff, and scale-like. The water is their chief element.

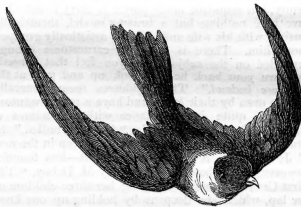
The peculiarities of this bird are—its adaptableness for swimming like a fish, its slow and awkward gait on land, and its ineapableness of flight.



THE FLAMINGO.

habit the warm climate of Asia, America, and Africa. They are good swimmers and swimmers. This bird muddles, and clutters the bill, and dabbles about, procuring food from the water, which the tongue receives and holds as a strainer.

Some difference of opinion has existed amongst naturalists to what class this bird belongs. Dr. Crisp says the anatomy of this bird is precisely that of a duck; and this is the tribe to which we believe it is allied.



THE SWIFT.

The swift is another bird selected for its rapidity of flight. They seldom alight on the ground, and when they do, which seems unintentional, it is with extreme difficulty they can raise themselves into the air again,* on account of their long wings and short legs. These birds arrive in this country in May, and migrate in August.



THE BAT.

The bat, the one as seen in the engraving, is the pteropus or frugivorous bat. They are found in the south of Asia, the Indian Archipelago, Japan, Madagascar, and Australia. They congregate in companies, and suspend themselves by the claws of their hind limbs to the branches; they spend the greater portion of the day in this manner asleep; but immediately after sunset they gradually quit their hold and fly about in quest of food. Their flight is slow and steady, pursued in a straight line, and is capable of long

* It is asserted by many that they cannot rise into the air again.

continuance. We have now described three birds and one mammal; the mammal can fly, and fly well; one of the birds cannot fly, and the other bird must be either on the wing or at rest; so that these examples are a choice selection for the favourite theory of links or progressive development from reptile to bird, beast, or fish. Let us now quote some passages from the "Vestiges of the Natural History of the Creation":—

Naturalists place the birds between the reptiles and mammals; yet in some respects the birds are not truly intermediate. We are the less to be surprised on finding that the principal mammal orders appear to be immediately connected with the reptiles, while only the lowest come through the birds. As usual in transitions from class to class, which in general are the leaps of the development process, the passage from reptile and bird to mammal is obscure; only indicated in a few stray facts. Perhaps the fossil blank at the conclusion of the cretaceous era has also helped to keep light from this subject. Still we have enough to bear us out in saying that, as the fish connect with reptiles, and these with birds, so do reptiles and birds together connect with mammals; thus, placing the general fact of the continued development of animal life from its lowest to its highest point beyond a doubt.

For this order there remains a basis in the Delphinidae, the last and smallest of the Cetacean tribes. This affiliaion has a special support in the brain of dolphin family, which is distinctly allowed to be, in proportion to general bulk, the greatest amongst mammalia, next to the orang-outang and man. We learn from Tiedeman, that "each of the cerebral hemispheres is composed, as in man and the monkey tribe, of three lobes—an anterior, a middle, and a posterior;" and these hemispheres "present much more numerous circunculations and grooves than those of any other animal." Here it might be rash to found anything upon the ancient accounts of the dolphin—its familiarity with man, and its helping him in shipwreck and various marine disasters, although it is difficult to believe these stories to be altogether without some basis in fact.

We cannot but regard with profound interest the question respecting our own immediate ancestry. The mind immediately refers to the simial family, whose form, size of brain, and general character, make so manifest an approach to our own. Yet it may be doubted if the particular species whence the human family was derived, has ever come under the attention of naturalists. It seems, judging from analogy, as if a larger species than any as yet described were required for this place in the tree of being. It may here be observed that of all the reptilian orders, the batrachian is that which has best pretensions to a place in the origin of the primates. "It is singular," says Dr. Roget, "that the frog, though so low in the scale of vertebrate animals, should bear a striking resemblance to the human conformation in its organs of progressive motion. It is the only animal besides man with a calf to its leg. It evidently "is making," says Dr. Roget, "an approximation to the higher orders of mammalia." The frog, however, is but a humble offshoot of the main line, terminating in the primates. There is something more like a lineal predecessor of the order in the Labyrinthodon of Owen (constructed by Mr. Waterhouse Hawkins for the antediluvian world in the Crystal Palace grounds), that massive batrachian, which leaves its handlike footprints in the new red sandstone, and then is seen no more."

The differences in birds to mammals commence from their birth. Birds are oviparous, or produced from eggs; mammals viviparous, or produced alive. Birds are clothed with feathers, or down, which are feathers in a modified form; mammals are clothed with hair, or wool—which is hair, also, in a modified form. The blood discs in mammals are circular, but in birds they are oval, as seen by the microscope. The difference between birds and reptiles are also equally striking. Birds have warm blood—no reptile has warm blood. All birds have four cavities in the heart—no reptile has more than three cavities. Reptiles are generally clothed with scales—no reptile has hair or feathers.

These properties are primary ones—no change of food, or climate, or habits, or any circumstances, could change these properties, or link them by gradations, any more than washing would change the colour of the Ethiopian's skin. We have given examples of birds possessing the attributes of fishes, yet who would have the hardihood to state that a goose was a fish because it could swim? The bat, as well as some other mammals, can fly, yet they are not birds, neither can they be called a link between the two—the bat being as much like a bird as a goose is like a fish. Our quotation from the "Vestiges" says the passage from reptile and bird to mammal is obscure. We perfectly agree with him that it is obscure, but that the continued development of animal life, from the lowest to its highest point, is, beyond a doubt, to us very problematical.

cal. Although we candidly confess that there are many apish individuals, yet we, in common with the author of the "Vestiges," quite agree that the particular species of apes that we have to claim as our progenitors has never come under the attention of naturalists, and we are also strongly inclined to believe they never will. Our experience coincides with the written Word, that man, beast, bird, fish, and reptile, were created after their own order; and however much different species may vary, yet each were created from the first according to their kind, and retained their distinct properties until now, from the time when acknowledged by our great Creator to be good or perfect.

ROYAL VISIT TO THE CRYSTAL PALACE.

On Tuesday, April 25, shortly before three o'clock p.m., it was announced that the Queen graciously intended paying a visit to the Crystal Palace. Time naturally being very short between that and her Majesty's expected arrival, scarcely any preparation could possibly be made beyond laying down a matting from the new carriage road to the temporary entrance of the Palace. About four o'clock her Majesty arrived, accompanied by his Royal Highness Prince Albert, the Prince of Wales, the Princess Royal, Prince Alfred, and the Princess Alice. The Royal family were conducted by the directors and a numerous body of officers of the company through the works by the following route:—In the first place the Royal visitors gazed with intense interest at the great transept; they were then conducted through Mr. Cos. Digby Wyatt's Courts, viz., the Italian, Renaissance, Mediaeval, and Byzantine—Mr. Wyatt being present, and offering every explanation of the same, at which her Majesty and his Royal Highness Prince Albert appeared to take considerable interest. Crossing the nave at the north transept, Mr. Owen Jones had the honour of escorting the Royal party through his courts—the Alhambra, Roman, Greek, and Egyptian—all of which afforded equal satisfaction. From thence, after due attention to other objects of fine arts in the building, the Royal family proceeded to the park and works of Mr. W. Hawkins, and after exploring their wonders for some considerable time, and thus prolonging the visit to upwards of two hours, the Royal suite departed amidst enthusiastic shouts from her Majesty's less fortunate though equally loyal subjects without.

APPROACHING VISIT OF THE QUEEN TO THE FRENCH EMBASSY.—Her Majesty has signified her gracious intention to honour with her presence a grand *bal costume* which is to be given on the 12th of May, by the Ambassador of France and the Comtesse Walewski, at the French Embassy. We believe that this will be the first time since the accession of the Queen that her Majesty has paid such a compliment to any member of the *corps diplomatique* accredited at her court, and the departure from the general rule will naturally suggest itself as having its origin in a desire on the part of her Majesty to mark in an especial manner the high sense she entertains of the civilisation and effectual co-operation of the Emperor Napoleon III. in the war in which France and England are about to engage. The adoption of this unusual step cannot fail to afford a new proof of the cordial and intimate alliance which, happily for the cause of civilisation, exist more strongly than ever between the two most powerful nations of the world.

MARLBOROUGH HOUSE.—Mr. R. N. Wornum is now engaged in delivering a course of most interesting lectures on the styles of decorative art to the students of the School of Design at Marlborough House. The information he affords is highly valuable, not merely to the ornamental artist, but to the student in fine art and to the public generally, or, at least, to those whose tastes lead them to admire the arts of painting, sculpture, architecture, and surface decoration. The value of these lectures is not known, otherwise the audiences would require a very much larger theatre for their delivery. To the student of ancient art opportunities of study are now afforded of which no one dreamt twenty years ago. The subjects upon which Mr. Wornum has lectured at present, include the painting, sculpture, architecture, and industrial arts of the Egyptians and Assyrians. The lecture on Monday evening last comprehended the early period of Greek art, tracing its origin to that of the Egyptians, notwithstanding the beautiful fables of the Greeks, by which they attempted to persuade themselves, and posterity also, that the art originated with them, and was a gift from the gods. These lectures will include all the styles, from Egyptian to Louis Quinze, and are an admirable preparation for comprehending the details of style in the exquisitely constructed courts of art in the Sydenham Palace. Such illustrations of style as are at the Crystal Palace, explained by a student so accomplished as Mr. Wornum, would tend in a great degree to diffuse correct taste amongst the public, and to regulate the vagaries of builders, of gentlemen, of aldermen, of churchwardens, and other persons who have exercised a voice potential in making and marring many of our public buildings.

The cast by Baron Marochetti has been removed from the site in Palace-yard. It is reported that Sir Charles Barry objected to the statue being placed there, as not in harmony with his edifice.

THE COURTS OF MODERN SCULPTURE.

NATURALISM seems the only peculiarity that raises the modern sculptor above a mere imitator of the antique. If he designs a "Deer-slayer," the art lies in the clammy hair of the dying animal; and yet in the sculptor's great aim, the exact reproduction of the very texture and surface of flesh, even his naturalism has never approached the excellence of the Greek. The moderns oftener represent children, and their subjects are more frequently drawn from domestic life than were those of the ancients. We represent, now, less the poetry of the ideal abstract than the poetry of the feelings. Modern sculpture is well represented here in the works of the English, Italian, German, and French schools. In our own division we see the grace and purity of Gibson, the tenderness of Marshall, the force of Lough, the delicacy of Westmacott, and the dignity of Theed. Bell, Macdonald, Lagrew, Spence, &c., stand side by side with the fluttering vicinities of Ronbillac, and the somewhat heavy classicisms of Bacon. Of two of our greatest men, Baily and Macdowell, we see no specimens; but this imperfection of representation will, of course, be rectified. Of the German school we have some beautiful works from the hands of Rauch and Schwanthaler (and Thorwaldsen)—not to forget Dannecker, Rietchel, Mayer, Drake, &c. The Italian is very rich in Canovas. We have his "Dancing Girl," "Nymph and Cupid," "Three Graces," "Mars and Venus," "Paris," "Venus and Adonis," "Hebe," "Magdalen," &c. —not to forget a memorable piece of bathos in his "Conchont Lion," nearly all mane, with a face like a prize pig. Rinaldi, Briggio, Sangiorgio, Bartholini, Strazza, &c., also send contributions. The French are, as usual, picturesque, vivacious, and admirable in their treatment of flesh, and delicate in their perception of the arch and the fascinating, if not of the beautiful. Fraikin, Claudet, Duret, Bosio, Jullien, Lequesne, Nanteuil, Debay, Dupre, Guillaume, &c., contribute to fill one of the courts devoted to this object. The French sculptors, though delicate in their manipulations, seem unimaginative and unambitious. Their subjects are hackneyed, and the treatment is seldom daring. Their greatest effort here is M. Etex's "Cain and his Children"—a thought of very great beauty, but requiring much power to carry it out. We have here nothing but a brawny model, theatrically musing, with his wife and children artistically grouped about him. There is not half earnestness enough expended on the subject, and you feel that directly you turn your back he will look up and grin at the "*pauvre badaud*." The goddesses seem generally models even by their faces, and have a pretty wantonness not quite in accordance with the names of "modesty," or "chastity." "Cupid Cradled," by Fraikin, representing a Cupid fallen asleep in the nest of Jove's eagle, is a poetical thought—less fanciful, however, than a beautiful group by M. Debay, "The First Cradle," a mother nestling her three children on her lap, which she deepens by holding up one knee. The modern Italians are rather overshadowed by the same sculptor of Canova, his smoothness, grace, and enamel surface, as well as by the number of his works. They are something far beyond mere imitations of the model, and are animated by a delicate, susceptible, but not a robust mind. He seems the Lawrence of sculpture—his men are feminine, and his women either insipid or not too virtuous. His studio was lit by a poetical, glow-worm light—Michael Angelo's by the arrowy driftings of the lightning. The one clothed his limbs with thunder—the other with French lace. The one carved for men—the other for women. The one grimaces and struts, as in "Mars and Venus," like a ballet-dancer—the other, even in repose, must give the sinewy grapple of a death-struggle. Signor Magni, of Milan, is not unsuccessful in his poetic naturalism. His "First Step," and "Child Sewing," are daring novelties in a country crushed beneath the nightmare of antiquity. The Germans are sincere, thoughtful, and classical, but often wanting in common sense. No mason's absurdity could be a greater blunder than Rauch's apotheosis of Frederick the Great, representing that hero, like Daniel O'Rourke, borne to heaven, cocked hat, sword, jack-boots, and all complete, on the back of an eagle which looks like a goose that has flown away with a farmer trying to fat it (the said farmer being at the time equipped for a yeomanry review). Thorwaldsen's "Venus" is one of the finest works of modern continental art, and is far better than the same sculptor's *eternity* of the "Four Seasons," which are rather bald and rigid. Widemann's "Hunter defending his Children from a Panther" is a good subject, very well treated—but in comparison with a Greek statue, looks more like a mere model than a completed work—just as a modern portrait appears a washed-in sketch beside one of Titian's Venetian heads.

Amongst various colossal statues, which being draped appear less powerful than their smaller companions, we may mention Dantou's "Du Quenay," from Dieppe, and Geef's "Rubens," from Antwerp. Their costume being not very dissimilar, they form two well-selected giant wardens for the nave in which they stand, at present.—*Athenaeum*.

THE RUSSIAN WAR.

It will be gratifying to our readers, who, of course, are interested in the present all-absorbing question of the success of our arms against those of Russia, to know that accurate views of forts, of capes, of harbours, and other places of interest to naval officers, are about, or, rather, have been produced, by means of photography.

Amongst the most interesting specimens exhibited at the last meeting of the Photographic Society, were several views, taken on board one of the vessels of the Baltic fleet.

Captain Scott—whose name is familiar to us as commanding the "Hecla"—was accompanied to the Sound by Mr. Elliott, an expert photographer. Under the directions of Captain Scott, he took several views from the most important points, indicated by the captain.

These views consist of the fortress of Kronberg, lines of coast with headlands, and other objects of interest about that part—all of them perfectly accurate in form, and clearly defined. They were taken by having the camera suspended up in a way similar to the compass-box. A double combination of achromatic lenses was used, and the pictures impinged in collodion, spread over glass plates. The operation was instantaneous, while the vessel was moving at the rate of ten knots per hour.

It is truly astonishing, when the rapidity of the process, the accuracy of form, the crowded state of the vessel, and other adverse circumstances to the success of so delicate an operation as photographic drawing, be considered.

Not only are the forms of the buildings and the line of coast given, but the swelling and up-heaving of the wave depicted in its exact drawing, in an instant of time. The great advantage of photography over pencil-drawing is thus established. Truths are given quite sufficient, whereon a commander might base warlike operations, with almost as much probability of success as if he were before the place itself. The relative heights of eminences being of the greatest importance in hostile operations, are here given with a fidelity beyond that of any drawing executed by hand. As a corroboration of the perfectibility of such photographic aids to our armies or navies, Mr. Fenton, the Secretary to the Photographic Society, exhibited numerous views taken by means of one of Ross's three-inch diameter lenses. These views consist of various photographic drawings of Portsmouth and Spithead, with the fleet under different aspects—and were executed by Mr. Fenton, by an instantaneous exposure. It appears that the military authorities, having seen the rapid and wonderful operation of photography, became quite aware of its importance, and its probable aid to their future instructions—and some of the members of the Photographic Society were written to on the subject. The Photographic Society upon this embodied, in a letter to the military authorities, all the information which their experience pointed out as likely to be practically valuable.

As a body, our men of peace, the photographic students, showed true English bottom, for setting aside the chances of war, and thinking only of being useful to their country; a perfect shower of letters fell into the editor's box, from volunteers for photographic service by "field and flood."

Their ardour has, however, received a check by the authorities commanding that certain men belonging to the corps of Sappers should be instructed in photography, and then placed under the direction of engineering officers, in the usual way.

Although our photographic volunteers have shown their readiness to comply with Nelson's well-known signal, "England expects that every (photographic) man will do his duty," and their patriotism has not been accepted, it is gratifying to see that photographic art is capable, not only of application to art generally, but, as in this instance, can be of practical utility both on sea and land.

A BUSTO-LIKENESS OF SIR C. NAPIER.—Having occasion to visit the model department at Sydenham place a few days ago, we were shown a really clever bust of this old Caledonian Admiral, the work of our gifted, young friend, Mr. P. Pieraccini, which, we trust, is destined to fill, if not a *niche*, a good *berth*, in the People's Palace.

LECTURE ON GOLD.

By PROFESSOR ANSTED, F.R.S., F.R.A.S.,
Superintendent of the Geological Department at the Crystal Palace.

This metal has been known from the remotest ages, and occurs in nature in a metallic state. It is of a deep yellow colour, and is seldom employed pure on account of its softness, but like silver it becomes harder by the addition of an alloy. Gold is alloyed with silver or copper, or both. The proportion now used in our coinage is one-twelfth in the gold, and somewhat less in the silver, and this is found sufficient to resist abrasion. In the French mint, the proportion of one-tenth is used for both metals. The fineness of the gold is generally estimated by the carat; this means that a piece of gold is divided into twenty-four parts or carats, and each carat into four grains; two of these parts are alloy, the remainder gold, so that English standard gold is twenty-two carats fine. Jewellery is stamped with a small lion if the gold used comes up to this standard; if not, it has, instead of the lion, the figures eighteen, surmounted by a crown, which shows the gold is eighteen carats fine.

If a bright surface of lead be exposed to the air, it soon becomes dull; if melted over a fire it is covered with an earthy coating; still continuing the heat it turns yellow, then red, and is at length converted into red-lead. This has been proved to be caused from a gas or air called oxygen, so that the rusting of metals is owing to their absorbing this gas. The real or intrinsic value of gold consists in the following various properties:—Its power of resisting the action of oxygen; pure gold will not become dull by breathing on it; neither is it affected by air and moisture, or by the pure acids; also its gravity or weight, power of tension, and malleability. Its specific gravity is 194 times heavier than water, being next in weight to platinum, which is the heaviest known substance on the globe. The power of tension is so great that gold wire, but the thirteenth of an inch in diameter, will suspend 150 lbs., and is so malleable that it may be beaten into leaves of which 280,000 would be but an inch thick, each leaf perfect. The hundred-thousandth part of a grain of gold may be seen by the naked eye, and a cube of gold, whose side is but the hundredth part of an inch, has 2,438,000,000 of visible parts. A cylinder of silver covered with gold leaf may be drawn out to the length of 350 miles. Gold leaf can be reduced to the 300,000th part of an inch, and gilding to the 10,000,000th.

Gold expands in melting, and melts in a high temperature. It is employed in jewellery, gilding, and a purple powder used in enamel painting is made by adding chloride of gold to dilute solution of protochloride of tin. Gilding is performed by forming an amalgam with mercury, and applying the soft paste to a bright surface of copper. Upon heating the article the mercury is driven off, and the gold left as a dull film, to be burnished.

This metal being scattered in small particles through the substance of various ancient rocks, is, at length, by the constant wearing down of the latter, set loose, and is then washed down, and borne by mountain torrents to a distance from its original position. Its weight and density render it easily separable simply by washing, which carries away the lighter particles of sand and mud, leaving the gold behind. Examples of the machines used for this purpose were shown by diagrams. The most simple was that of a bowl of cedar, which is commonly used in California. An engraving and description of the gold-crushing machine was given in No. 5 of this Gazette. The lecturer then showed a variety of specimens of rocks containing gold, and said it was obtained in Peru, Brazil, Mexico, California (it was found in that locality by a man whilst cutting the gravel to erect a mill), the west coast of Africa; Transylvania and Hungary in Europe; the Ural Mountains in Asia; and lastly, and most abundantly, in Australia. Gold was not found in great quantities till after the 15th

century. The supplies of gold in the years 1800 and 1848 were as follows:—

	In the year 1800.	In the year 1848.
Europe	185,020	200,000
Siberia	75,770	4,000,000
Africa	no account	400,000
North America	700,000
South America	2,467,460	1,200,000
Total	2,729,250	6,500,000

The annual quantity of gold has wonderfully increased since 1848, yet it has made no alteration in its value; neither is there any likelihood of a deterioration from the fixed price, and it will no doubt still continue to be the most noble metal as a medium of exchange amongst the civilized world.

It is intended to open the Crystal Palace and Park at the end of May; after which they will be open daily, Sundays excepted. The following are the arrangements for the admission of the public:—

FIVE SHILLING DAYS.—On Saturdays the public will be admitted by payment at the doors, or by tickets of 5s. each.

FREE-CROWN DAYS.—On Fridays the public will be admitted by payment at the doors, or by tickets of 2s. 6d. each.

SHILLING DAYS.—Mondays, Tuesdays, Wednesdays, and Thursdays will be shilling days. At the gates, a payment of 1s. each will admit the public; or tickets entitling the holder to admission to the Palace and Park, and also to conveyance along the Crystal Palace Railway, from London-bridge Station to the Palace and track, will be issued at the following prices:—

Including first-class carriage	2s. 6d.
Including second ditto	2 0
Including third ditto	1 6

CHILDREN.—Children under twelve years of age will be admitted at half the above rates.

HOURS OF OPENING.—The Palace and Park will be opened on Mondays, at 9 o'clock; on Tuesdays, Wednesdays, and Thursdays, at 10 o'clock, a.m.; and on Fridays and Saturdays, at 12 o'clock; and close every day an hour before sunset.

OPENING DAY.—The opening will take place about the end of May. The precise day will be announced as early as possible. On that occasion season tickets only will be admitted.

SEASON TICKETS.—Season Tickets will be issued at two guineas each, to admit the proprietor to the Palace and Park on the day of opening, and on all other days when the building is open to the public.

Season tickets, to include conveyance along the Crystal Palace Railway, from London-bridge to the Palace and back, without further charge, will be issued at four guineas each, subject to the regulations of the London, Brighton, and South-Coast Railway Company; but these tickets will be available only for trains from and to London and the Palace on such days as it is open to the public, and will not be available for any intermediate station.

No season ticket will be transferable or available except to the person whose signature it bears.

FAMILY SEASON TICKETS.—Members of the same family who reside together will have the privilege of taking season tickets for their own use, with or without railway conveyance, on the following reduced terms:—

Family tickets of two tickets will be entitled to 10 per cent. discount on the gross amount paid for such tickets; taking three tickets, to a discount of 15 per cent.; taking four tickets, to a discount of 20 per cent.; and five tickets and upwards, to a discount of 25 per cent.; and these tickets will be available only to the persons named in such application. Printed forms of application may be had at the office, 3, Adelaide-place, and at the other offices for tickets.

Season tickets will entitle to admission from the opening day till the 30th April, 1855.

Applications may be made for season tickets at the offices of the Company, 3, Adelaide-place, London-bridge. Season tickets, as soon as ready, will be delivered in the order in which the applications have been made, at the offices of the Company, 3, Adelaide-place, London-bridge, and 14, Regent-street; and at the Crystal Palace; also at Mr. Sam's, 1, St. James's-street; Mr. Mitchell's, Bond-street; Westerton's Library, Knightsbridge; London and Brighton Railway Terminus, London-bridge.

SPECIAL REGULATIONS AND BYE-LAWS.—All the general provisions and regulations mentioned above are to be understood as being subservient to such special provisions, regulations, and bye-laws on the part of the Railway Company and the Palace Company as may be found necessary to regulate the traffic, and to meet special occasions and circumstances which may from time to time arise.

By order of the Board,

G. GROVE, Secretary.

Adelaide-place, London-bridge, April 13, 1854.

SCHEDULE OF PRICES OF FAMILY SEASON TICKETS.

Without Conveyance by Railway.	£ s. d.	Including Conveyance by Railway.	£ s. d.
Two Tickets	3 10 0	Two Tickets	7 11 6
Three "	5 7 6	Three "	13 9 6
Four "	6 15 0	Four "	18 15 0
Five "	7 17 6	Five "	22 1 0
Six "	9 9 0	Six "	25 4 0
Seven "	11 0 6	Seven "	28 2 0
Eight "	12 12 0	Eight "	31 10 0
Nine "	14 3 6	Nine "	34 10 0
Ten "	15 15 0	Ten "	37 10 0

Literature.

The Ventricule of the Chalk: their Microscopic Structures, Affinities, and Classification. With Plates, &c. By J. TOULMIN SMITH. London: R. and J. Taylor.

This book ought to lie on the table of every one who has any taste for geology. It contains the results of immense labour. Those only who have obtained the privilege of inspecting Mr. Smith's exquisite collection can possibly conceive the amount of energy and of scientific research spent on the subject. We believe that the author may challenge the whole world to compete with his series of Ventriculites. Beautiful tissues are revealed in the solid flint as well as in the perishable chalk. Under Mr. Smith's powerful microscope a new world of delicate fossil lace-work, which enveloped organized existence, has been discovered. Exquisite mechanism, beautiful structure, and organization stereotyped in the flinty register of the past, are here represented in Mr. Sowerby's accurate plates, and scientifically explained in the author's earnest text. Would that we had a few more geological inquirers such as Mr. Smith, men who would slice and polish a thousand flints with their own hands to ascertain a series of facts like these!

LONDON SOCIETY FOR TEACHING THE BLIND TO READ.

The sixteenth annual meeting of the friends of this society was held on Monday, April 24th, at Hanover-square Rooms—the Right Rev. the Lord Bishop Carr in the chair; supported by the Revs. E. Auriol, H. H. Beamish, J. W. Gowing, T. Short, Dr. H. Stebbing, R. Whittington, E. Ashby; and P. N. Johnson, J. J. Cumming, and H. Harwood, Esqs.

The Report stated that the society had widely extended its charitable operations, and that the number of subscribers and supporters had increased during the past year—but the very fact of its increased labours rendered increased funds necessary. Its object is well known, to teach the blind—not only the indigent, but those somewhat removed from poverty—to read by Lucas's system, and to emboss the Bible for their use. It appeared that there are now resident in the institution, in Avenue-road, twenty-four females and twenty-nine males, besides day pupils—the latter of whom receive gratuitous instruction, on approval by the committee.

The meeting was well attended by a large and influential audience, and the pupils gave great satisfaction for the manner in which they read from the embossed Bibles; and sang, in parts, anthems from Mendelssohn, Handel, and Haydn. They are taught to earn their livelihood by basketwork and music—many of them perform well on the organ. A volume of sacred tunes was also produced—the first of its kind; in which, by adaptation of seven simple letters to musical notation (by the master of the school, Mr. Wood), the blind are enabled to sing and play by the touch. And the length and position of each note being designated by the placing of a dot, the necessity of staves is obviated.

Strong additional corroborative testimony to the simplicity of Lucas's system above any other, was adduced in many cases: two clergymen, who are able to perform divine service by the embossed Prayer-book and Bible; an elderly person, who had taught herself; a pupil, blind and deaf, who had been taught by a friend marking the shape of the letters on the palm of the hand.

Its simplicity consists in that only two symbols are used, a straight line, a semicircle, and a dot combined separately with each of these, placed in different positions, so that the memory is not burdened nor the finger puzzled by a complexity of forms.

The society has made grants to the amount of £160 during the past year of portions of the Bible, and other portions of the Bible are almost out of print, they need additional and speedy efforts to furnish increased funds for this object, having only £23 10s. left in hand for the purpose. They earnestly call on their friends for increased support for general objects, having exceeded their receipts by £147. They regret to be obliged to refuse also to receive to very many who apply for help, and were only able to receive seven additional pupils during last year.

They especially solicit donations to enable them to liquidate the balance of £550, borrowed on mortgage five years since to pay for their building, and suggested that ten friends might accomplish it by £50 each.

They are most anxious also to receive to very many who purchase the ground-rent of the premises for ninety-nine years, and save the annual burden of £75.

They extend this year the privilege of voting for the elections of free pupils to all subscribers of one guinea and donors of ten guineas.

The collections at the door were £15 19s. 9d., and other subscriptions and donations were contributed to the amount of £20; and about £6 by the sale, in an adjoining room, of specimens of the handiwork of the pupils.



A SUGGESTION FOR THE NATURAL HISTORY DEPARTMENT.

IMPORTANT ANNOUNCEMENT.

We have reason to believe that our subscribers generally are perfectly satisfied with the manner in which we have conducted this journal to the present time; and with the hope of deserving and receiving still further support, we have the pleasure to announce that on and after the 1st of June the *Illustrated Crystal Palace Gazette* will be ENLARGED TO SIXTEEN PAGES, and printed in the best manner. It will be filled with accurate engravings, in the very highest style of wood engraving, of the most interesting features connected with the People's Palace. It will also contain in the literary department much valuable information, with independent criticisms on the works of art, science, and manufacture in the building; thus forming one of the most valuable and cheapest publications.

THE SEWERS OF LONDON.

It appears that the sewers of London are not to be compared with those of ancient Rome. Shame on modern engineering! The sewers of Tarquin, after the lapse of more than two thousand years, remain uninjured. He is said to have cut through the seven hills of Rome to form them. The old Italians seem to have been adepts at tunnelling.

It was possible to sail in boats beneath ancient Rome. A load of hay might pass underneath the foundations. Seven streams are said to have been diverted into these immense sewers to flush them. Occasionally, the pavement above would tremble at the roar of the waters. Everything was swept away by the current—stones and the heaviest obstacles, as well as ordinary sewage. The Fleet Ditch is comparatively insignificant.

But the *solidity* of the structure was most remarkable. Instead of crumbling bricks a hard stone was used. A triple arch, too, was deemed necessary; and modern engineers would have difficulty in devising anything more enduring.

The levels, also, must have been judiciously planned. It appears from Vitruvius that the Romans were trained to do much without the theo-

dolite. Each house had a private drain of earthen or wooden tubes leading into the main sewer.



The sketch above will give an idea of the style of this ancient structure. We sincerely hope that the Board of Health will enter into this department of refined classical learning.

ORDER.

THERE seems to be something in the English mind antagonistic of order. Method and sequence are not English characteristics. We seem to have an innate love of higgledy-piggledy and huggemugger. Our courts of law are often in glorious uncertainty as to their own position. In the middle of a long case, judges sometimes wisely discover that their court had no right to try it. Our streets, the arrangement of our public buildings, are glaring examples of want of order and regularity. Our railways, looping, interlacing, twisting, winding, and crossing, seem intended to convince future generations of our perverse habits. The English character is made up of afterthoughts.

Somebody, however, has said that the very excellence of the English Constitution lies in its acknowledged imperfection. It is a development—not a finite and limited idea. Perhaps the same reflection may comfort us in contemplating the desultory plan of the courts in the Crystal Palace at Sydenham. Aristotle, in his masterly "Poetics," sapiently tells us that the plot of a drama should have a beginning, a middle, and an end. It has unfortunately become a glaring fact that the ground-floor of the Crystal Palace has neither beginning, middle, nor end. There is want of unity in time, place, and action.

We should have desired to trace the development of humanity in the series of courts. We would have endeavoured to represent the arts in their cradle, their youth, their manhood, and their

decadence—how, too, the phoenix sprang up again from the ashes of its parent. We would have had the Courts of the Palace so arranged that any Telemachus might understand the story without a Mentor. The youth ought to be able to pass from one end to the other—see what man *was*, feel what he *is*, and perhaps acquire the power of shrewdly conjecturing what he will become.

As it is, Sir Joseph Paxton will bloom at one end, whilst the bright colours of Assyria fade at the other. The step from Paxton to Pompeii can only be grounded on an aliteration. The Assyrian Court is the beginning of the end—the "proteron-husteron." The Alhambra is the beginning of the middle. The Modern Sculpture Court is far away from all its friends—if it ever had any. Perhaps some of the projected Modern Fabric Courts will make up the end of the beginning.

A methodical chronological arrangement of Gothic would have been of inestimable value. A few of the early types should always be prefixed to every series—a few specimens should lead out every transition. This might have been easily accomplished at every stage, from the beetle-browed semicircular arch, down to the straight-laced perpendicular. What a pity it is that the German expression, "Das Werden," has no counterpart in the English tongue, and little to correspond in English ideas!

The above remarks will apply to the details of several of the Courts. So many "exquisite" specimens will be crowded together, that we should be glad of a few simple, teaching examples, to relieve the eye, and to refresh the mind. If the warning "do not glitter in every line," be most valuable to young and promising poets, it is not less valuable for the caterers of poetry embodied in art. One cannot dine on three courses and a desert of sugar plums, any more than on Caleb Balderstone's varieties of herring. To teach is the professed aim of the Crystal Palace collectors—to tickle is the subordinate end understood. We are such hearty well-wishers to the undertaking, that we should be extremely sorry to see these two change places. We are sure, also, that none would eventually regret this more than those gentlemen who are now staking their artistic reputation on their performances at Sydenham. It is one thing to collect throngs of staring, gaping beef-eaters—it is another, and wholly different, to purify taste, to ennoble art, to leave to posterity a κτήμα ἐς αἰετ—an everlasting possession.



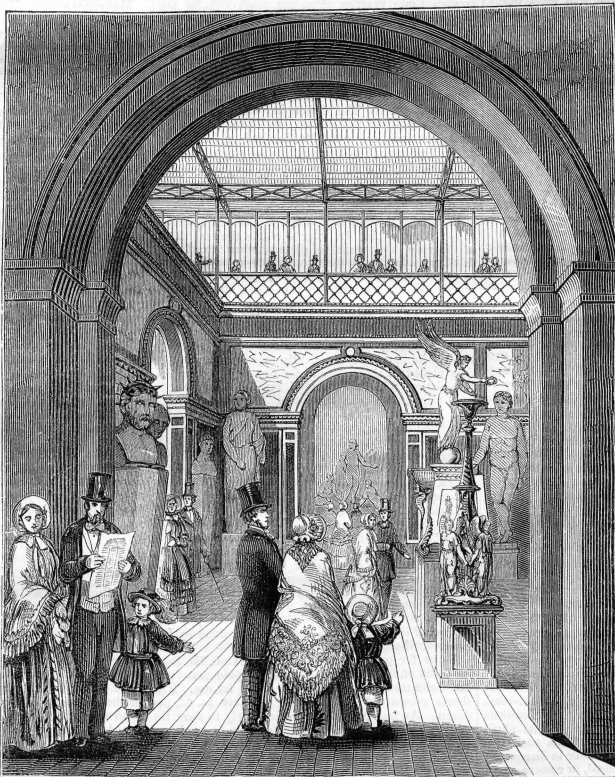
SOUTH-WEST VIEW OF THE CRYSTAL PALACE.

PORTION OF THE FACADE OF THE ROMAN COURT.

This is an imitation of a portion of the exterior of the Colosseum in the city of Rome. It is not yet painted, neither are the figures placed as they are ultimately to stand—so that a description of the Colosseum would, perhaps, be the most appropriate at present. Its site is between the Cœlian, Esquiline, and Palatine Hills, at the termination of the Via Sacra. It was completed by Titus, ten years after the destruction of Jerusalem, by the captives taken in that war. Its form is an ellipse; the circumference is about 1,770 feet, the greater diameter 615 feet, and the lesser 510 feet. The height was 164 feet, having three tiers of arcades—the lower having Doric columns, the second Ionic, the third Corinthian, and above this a Corinthian pilaster. The arch represented in the cut is from one of the lower arcades.

The chief entrances were at the extremities of the two diameters. The building contained 160 staircases, and were managed so skilfully that visitors, either senatorial, equestrian, or plebeian, took their seats without confusion. The interior contained from sixty to eighty rows of marble seats, placed one above another.

The arena was sur-



rounded by a wall, 16 feet high, and 11 feet thick. A gallery was formed on this wall, in which the senators, magistrates, and vestals sat, and a balcony projected from the middle of the gallery for the Emperor. The wild beasts were kept under the arena.

Everything was constructed for the convenience and luxury of the audience; rooms were laid out with refreshments, the air was scented with aromatics, and cooled by fountains. All this luxury was made the vehicle to call forth the most horrid feelings, and the most depraved of human passions—such as gladiatorial spectacles, where men fought till they killed each other; men were also called to fight wild beasts—some of whom were criminals, and, not having any weapons of defence, they could only stand up to be torn in pieces; others fought with wild beasts for the sake of pay, and some for a love of notoriety in displaying their skill—all of which was a gratification to the assembled multitude—a constant infusion of poison to the beholders of the most dangerous nature, which ultimately ended in the annihilation of the Roman people. Dr. Brown, the secretary of the Archaeological Institute of Rome, has made a model of the

Colosseum for the Crystal Palace. It is executed in a material resembling ivory in whiteness and polish. The measurements are of the greatest exactness—1 to 100 being the scale to which the model is diminished; all the details are done by hand, and not moulded. It represents the Colosseum as restored, and displays, even in this miniature size, a magnificence truly astonishing. To examine it more easily it is divided into four parts, and by this means the internal structure is more readily understood. Each part consists of nearly 10,000 separate pieces. 180 of the 360 open arches forming the circuit are filled with statues; the proportions are founded upon the broken fragments still remaining. The portico above is furnished with metal poles for fixing the awning, which screened the spectators from the sun and rain. This awning, or velarium, was formed of forty angular curtains, made of sail cloth, which were supported by strong ropes, crossing the two diameters of the building, and by smaller ropes commencing at the centre and traversing to the circumference, where they were attached to timbers covered with brass, and inserted in the cornice of the outer wall. The edges of each curtain had loops through which the ropes passed; they, also, had appropriate tackle for the purpose of expanding or contracting particular parts.

SIMPLE PHOTOGRAPHIC PROCESSES.

In our last number we stated our intention of describing some easy processes in the fascinating art of Photography, now so popular, and one that bids fair before long to make every man his own draughtsman. He will not only take off his friends, but like Foote the comedian, himself also. Macbeth, according to Shakspeare, disapproved of the art, as we may presume from this well-known quotation:—

“This Duncan
Hath borne his faculties so meek, hath been
So clear in his great office, that his virtues
Will plead like angels, trumpet-tongued, against
The deep damnation of his taking off.”

Nevertheless, in spite of Shakspeare's opposing views (no doubt he meant photography) I and Macbeth's unsuccessful dabbling in the black art, it is a very agreeable thing to be able to take a dear friend's head off, or to walk off with a church, or a palace, or your friend's house; but, like most deeds of a dark complexion, gentlemen thus coveting and desiring other men's heads or dwellings cannot escape with clean hands. We should, therefore, advise all photographers to be strictly virtuous, and keep out of the hue and cry, for, of a certainty, the black stains on their fingers, and nails especially, will betray them to the police.

In the following simple details practising amateurs are not addressed, nor are any of those of the community who have studied chemistry, light, or optics; nor are those appealed to who are ready and willing to take up any one, or all of these studies. Time thus bestowed will, indeed, be agreeably disposed of, and a wonderful source of gratification discovered in an examination of the subtle combinations in photographic chemistry, and the extraordinary influence exercised over matter by different states of light.

For such students, Hunt's Photography, De la Motte's Manual, Thorthwaite's Guide to Photography, Bingham's two volumes of photographic details, and other hand-books, may be read with great pleasure; to which works on chemistry, light, and optics, may be added, for a more enlarged view of the subject.

An art so bewitching as is that of photography, has enlisted a host of amateurs, good, bad, and indifferent. Every one tries some modification of old plans, and makes distinctions of methods with scarcely any difference between them; so that the multiplicity of recipes for manipulation in photography in number equals legion. A plain, unsophisticated aspirant to photography is bewildered amongst them, and may, indeed, sit down agast at the hard names given to the chemicals, and the thousand and one difficulties which stare him in the face. It will be our object to avoid these difficulties, to keep the candidate for photographic honours clear of the mists, and to give him good practical advice previous to his “arming for the field,” now that Phoebus smiles, and gaily bids him to be up and doing.

If our aspirant proposes to himself to take views of buildings or places, his lens should give a picture of 9 or 10 inches across, and should be also *achromatic*. Any of the dear old photographic apparatus will fit him up on a reasonable rate.

Sir William Newton, one of our nearest photographers, purchased a capital achromatic lens for 10s. 6d. unmounted; some use common meniscus lenses, but the expense is not so very great as to render it advisable to use non-achromatic lenses. The camera should be purchased at Ottewill's manufactory, 24, Charlotte-terrace, Caledonian-road, Islington, or at any of the shops supplying chemicals or instruments to photographers. The points about a good camera are many, and the faults such that require a very experienced manipulator to discover.

The same may be said of a tripod, or camera-stand. Supposing the amateur furnished with his camera

complete and his tripod-stand, in order to take a view he requires prepared paper. This he may purchase, ready to put into his camera, of Mr. Mark Calot, 1, Claydon's-place, Clapham-road; or of Mr. John Sanford, Aldine-chambers, 13, Paternoster-row; or of Messrs. Sams, 7, Adelphi-chambers; or of Messrs. J. B. Hockin and Co., 289, Strand, London. These papers are prepared by experienced photographers, and retain their sensitive properties for fourteen days or a month—printed directions for use being always sent with the parcels of paper.

By adopting this method, much time and vexation are saved, for the preparation of sensitive paper is a process which requires both care and great practice. Any failure on the part of the paper, such as spots or want of impressibility, unequal action or any other defect, would be readily met by sending fresh prepared sheets for those which failed through want of care on the part of the preparer.

Mr. Sanford's sensitive paper will keep fourteen days; the sheets measure eleven by nine inches, and the price of them per dozen is nine shillings. Mr. Calot's paper will keep a month; the measure of the sheets is nine by seven and two-third inches, price per dozen 10s. 6d.

This prepared sensitive paper requires to be kept strictly closed from the daylight, and ten air-tight, in a thick portfolio, as the slightest exposure to daylight would spoil the paper.

Now to commence operations, let the camera be placed so that the view or building required to be taken appears plainly delineated on the ground glass screen at the back of the camera. This is a nice point, and the lens should be moved in or out until the layers of mortar or the smallest spots are clearly visible on the stones or bricks composing the building. When this clearly defined picture has been obtained, retire to a dark room lighted only by a candle, having a screen of yellow paper round the flame, or a window covered with at least two thicknesses of yellow calico; by this yellow light a piece of the sensitive paper alluded to above, may be placed in the sliding and shuttered frame of the camera; close the shutter, and then it may be taken safe and placed in the camera, exactly in the place of the glass screen, which has been previously withdrawn; of course, after obtaining a clear picture on the screen, the lens must not be moved, nor the camera moved nor jolted; the withdrawing of one frame and the substituting of the other must be done with ease and dexterity; any striking of the frames or violence in placing them would throw the object required out of the field of vision, or seriously disarrange the picture. Every time being ready, raise the shutter and turn it back, the paper is then being impressed. The time necessary varies according to the paper used, according to the kind of light, and the kind of object, but in sunshine, from five to ten minutes may be given; this is an average time; practice alone can teach this, for the time of exposure varies with the colour of the object and the distance. The time of exposure being over, close the shutter and remove the frame from the camera; take it to the darkened room. The next process is to develop the picture. Generally, when it is taken from the camera, nothing is visible on the paper; the action of Gallic acid and other chemicals develops the picture. The developing solution depends upon the kind of paper used, and if the printed instructions sent, either by Mr. Sanford or Mr. Calot, or other persons of whom the sensitive paper has been procured, be carefully followed out, the picture will appear, and can be fixed or rendered unchangeable to action of light. This picture is called a *negative*, because it is a *negative of the true effect*—all the light parts of the real view being represented by darks in the photograph. In order to obtain the real effect of the view, the *negative* picture, when fixed and dried, must be placed face downward on another piece of sensitive paper, called *positive* paper. This, when placed (in a dark room) on a board covered with black cotton velvet, and the drawing gummed at two opposite corners, the whole covered with a piece of plate glass, having strong strings on two ends strained tight by means of four bottle corks, will place the two papers in close contact. By exposing the papers thus placed in the sunshine for five or ten minutes, the picture will be imprinted on the fresh sensitive paper, the exact reverse of the *negative*. The lights and darks being in their proper places, this is called the *positive* picture. Some nicety is required in the printing. To judge if it be dark enough, retire with the picture into the dark room, and examine the progress, by lifting up the *negative*, which, if *tightly gummed* down at two corners, will not *shift its place*. If not dark enough, place them, as before, in the sun's rays until sufficiently done. When finished, wash it well in water, and then immerse it in a dishful of hyposulphite of soda, 4 oz. to the pint of water; remove it after a few minutes, and wash it well in three or four waters, letting it remain for twelve or fourteen hours, after which it should be pressed and dried between folds of white blotting paper. The picture will thus be fixed, and undergo no further change. Both processes just described of developing and fixing may be done by Mr. Sanford, whose charges are moderate.

Paper for positives may be obtained of Mr. Sanford, and of most dealers in photographic materials, and of most makers of photographic paper for use. The sheets measure 9 inches by 7, and are 5s. 6d. per dozen. As our present object is simply to show the way in which a photographic picture can be produced with the least trouble, we have purposely abstained from giving reasons, or explaining the principles upon which photography is based.

The popularity of this art has caused several ex-

perienced persons to endeavour to make its practice as easy as possible by saving the operator trouble and annoyance in preparing the papers. The taking of the *negative* picture, developing it, and fixing it, constitute the real pleasure of the process, to which may be added the printing and fixing of the positive, while the preparing of the *negative* and *positive* papers require patience, practice, and time.

By following out the simple instructions here given, any one may take photographic pictures, but, of course, not understand the chemical processes, or the principles of optics applied to the camera—for that, books must be consulted. We would advise the practitioner to persevere for some time with the same sensitive paper for negatives, whether procured of Mr. Sanford or of Mr. Calot, or elsewhere, so as to acquire dexterity in the manipulating of that one paper. The pleasure derived from success will be great, while, by trying several kinds of paper at the commencement of his practice, inevitable failures may create so much disgust as to cause him to discontinue his effort. Having now clearly pointed out almost a royal road to this pleasing pursuit, we will leave the learner to his practice.

We subjoin what will be necessary to purchase for the above practices in photography.

A camera of lens—two or three—two or four yards of yellow calico—thick portfolio, with flaps—sensitive paper for negatives—four ounces of hyposulphite of soda—sensitive paper for positives—two flat chemical dishes—a board about twelve inches square, covered with black velvet—a piece of plate glass twelve inches square—two pieces of strong string, four corks, and one quire of white blotting-paper.

The developing solution, according to the particular directions given on purchasing sensitive negative paper. The chemicals required will be Gallic acid, nitrate of silver, pure glacial acetic acid, and distilled water; a graduated glass for measuring the solutions will also be required. Scales and weights for weighing the chemicals will be necessary.

Where expense is no object, it would be better to have Ross or Voightlander's lenses—the latter may be procured of Messrs. Knight, Foster-lane. Mr. Sanford keeps a stock complete, with Ross's lenses. The same applies to all photographic apparatus—the more complete the better, and the less likely is the experimenter to fail.

PARK CHAPEL, SYDENHAM.—The Rev. T. C. Hine, late of Plymouth, has accepted an invitation to become the minister of Park Chapel, Sydenham, a recently re-opened by the London Congregational Chapel-Building Society.

MATERIALS FOR MONARCHS.—Much amusement has been excited in and out of Pall Mall lately, by the astounding fact recently brought to light by Sir William Molesworth—that Mr. Wyld most disloyally, and actuated by the most highly concentrated revolutionary spirit, had positively carted away as rubbish his most glorious and ever-to-be-remembered majesty George the Second. Things have come to a pretty pass, indeed, when monarchs are spoken of as rubbish in the British House of Parliament! Then the *Athenaeum*, to carry on the joke, hints that a little more rubbish may be found at Hyde Park Corner. It is curious and interesting to think how admirably the sculptor of this gingerbread statue has estimated the qualities of heart and head possessed by this royal stop-gap. The clay of which all the human race is metaphysically and remotely compounded, has here been adopted really as the representative of this glorious monarch. Clay aptly represents the head—the heart, with equal truth, is typified by the lead—the gold spread over the compound well expressing the fulsome adulation which sycophants pour into the ears of royalty. A hint, however, may be derived from the discovery of the composition of this statue—as many other monarchs' statues might be properly raised of similar materials. A certain mighty man, throned in the North, will, before long, be assuredly voted to be rubbish by his subjects, called out to be butchered for his special pleasure. While commerce is strangled by the acts of this autocrat, we would command the Roman sculptor to erect a statue to the glory of Czar Nicholas, by making the head a leaden one—the body of stone—and, in the place where the heart should be, a charge of gunpowder, well sprinkled with spikes, shot, and other devilish devices of destruction. A little brass might also be employed as a way of a mask to the leaden-headed royal statue.

FINCH-ARD NEWS.—A correspondent of the *Morning Herald* mentions a report that Mr. Gladstone has just expended £2,000 in purchasing some fresh pictures for the nation.

A PORTRAIT OF SIR CHARLES NAPIER.—A former-looking man with a fat face, thick lips, and a tremendous nose covered with snuff; large ears, like the flaps of a saddle, and, like “Uncle Ned” in lyric history, with no wool to speak of on the top of his head, although his phrenological developments display an extensive surface where the wool ought to grow; the head placed on the body of a stunted adaman, whose clothes appear to have been pitch-forked on his back, with one shirt collar up and the other down, his waistcoat buttoned awry, and his shirt-front smeared with snuff—and you have the portrait of Sir Charles Napier. If there is a thirst for further particulars, it may be added that the Admiral wears Blucher boots, and takes snuff with three fingers.

BURN'T BALLAST.

BURN'T ballast (burnt clay) has lately grown into use in this country for the construction of roads and for many other purposes, in places where the soil is of an argillaceous nature, and gravel and sand is difficult to procure. It has been successfully employed on the Greenwich line for the foundations of the arches, and on the Great Western, Oxford, and Rugby, and Great Northern lines, as a substitute for gravel. It has also been used for a like purpose in the new market at Copenhagen-fields, in many other parts in and about the metropolis, and on the lakes and many parts of the Crystal Palace grounds it is abundantly used.

In India, burnt ballast has been used for the construction of roads and houses for a very considerable period. In building houses with it, the *clinkers* or vitrified masses that are occasionally formed during the burning of the clay are first piled up to form an outer and an inner wall, and the finer or smaller ballast is filled into the space left between them.

For forming the lower or *sub-road* it is equal, if not superior, to gravel, for it not only binds together as readily as gravel, but, in consequence of its greater porosity, and its affinity for moisture, tends to keep the natural or formation surface of the road sound and dry, and in a great measure, becomes itself the medium for carrying off the under drainage, especially where there is a slight fall in the ground, over which the road is laid. It is not, however, of itself capable of resisting the direct wearing action of wheel traffic.

It answers admirably for garden walks, and when thus used does not require to be covered with gravel, like carriage-roads, for if it be laid on sufficiently thick, say four or six inches, with about an inch of the finer stuff obtained by sifting on the top, and afterwards rolled till it becomes entirely consolidated, it keeps clean and dry during the wettest weather, and retains its colour, which, being a bright red, contrasts very well with lawns, meadows, and shrubs.

In Norwood and its vicinity roads have been successfully made with it. The principal of them are on the Freshfield-Land Society's estate at Forest-hill; in Jew's-walk, at Sydenham; in the Hamilton-road, Lower Norwood; in the Anerley-wood, till lately the property of Mr. Adams; and on a plot of ground by the side of the canal close to the Anerley Railway Station, belonging to Mr. Price, who is burning large quantities of ballast to clear off the soil thrown out of the canal cutting, in order to render his property eligible for building purposes.

The process of burning the clay is very simple, and a description of the manner of *starting* a fire to effect this object may not prove uninteresting to the reader. A fire is thus started—Over a heap of chips, or shavings, or dry furze, or any other light combustible matter, a quantity of bawns or logs of wood are stacked up endwise, in the shape of a cone, commencing, at first, with small light pieces, and gradually increasing them in length and substance till they are of the thickness of a man's thigh, and three feet long. The chips, &c., are then ignited, and, whilst they are burning, small knobs of coal are thrown in, to assist the fire in getting a good hold on the bawns. When the bawns are well alight, they are covered in with moderately sized clods of clay, piled round them in the same conical form, and a draught-hole of a foot in diameter is left open at the top to carry off the smoke. The fire is then occasionally fud through the hole with knobs of coal, and when it has burnt for two hours the draught-hole is filled up with a good-sized clod of clay, and left to burn. Should the fire tear away too fiercely, whilst the hole is left open, the aperture is decreased by placing a clod in it. As soon as the clay on this piled round becomes wet, or *sweats*, as the workmen express it, *coal dust* is sprinkled on pretty thickly all over the heap, and it is again cased in with clay, to the thickness of about four or six inches, and this operation is repeated whenever the clay renews the wet appearance, until the fire is three days old. The slack or unburnt stuff is then trimmed off and thrown aside, and the fire, of which there is always a greater body at the top, is drawn down and distributed over the mass—one-third of the heap only being drawn at a time. Coal-dust is immediately sprinkled on, and the fire thus exposed is covered in as quickly as possible with the slack trimmings and fresh clay.

The heap is then regularly prepared, and in working order, and after it has been coaled and covered in, as last described, and left to burn for an hour or two, it is again coaled and cased with fresh clay, which is generally thrown on six inches thick at the foot, and gradually increased upwards to eighteen inches at the top, and is then left till the following morning, when it is again drawn, coaled, and covered in, and afterwards receives a second coaling and coating, as on the previous day, and is left till the following morning, and this process is daily repeated till the fire is burnt off.

Coal-dust is generally used for burning the clay, and the finer it is the better the fire, as it distributes itself more regularly and evenly amongst the clay. *Breeze* (cinders), strengthened with a little coal-dust, is sometimes used for this purpose, but it does not answer so well. A strong stiff, or a fat, loamy clay, makes the hardest ballast, and every yard of it requires one hundredweight of coal-dust to burn it.

The tools used by the men consist of a *drag*, or fork, for pulling down or drawing the fire, with three prongs, ten inches long, fixed to a five-foot iron strip, or stem, with a socket, into which a ten-foot wooden handle is fitted, the prongs being bent at right angles

with the handle; iron bars, grafting tools, shovels, grubbers, chisel-pointed picks, navy barrows, barrows, fourteen-inch planks, trussles, and box-horses, hurdles for loam are likewise used.

It is only when large quantities are required that it is worth while to burn ballast. Small fires are very expensive, and certainly render their contents more costly than if purchased.

The ballast, if thoroughly burnt, is of a bright red or plum colour, exceedingly hard, and has a ringing sound when struck together. If of a yellow tint, it is only half-burnt, and will soon return to its maiden state.

If, in constructing roads with burnt ballast, wood be used, it is a good plan to cover the wood with shavings or furze, previously to spreading on the ballast.

The thickness of ballast to form a road is regulated by the anticipated amount of its traffic; and by the nature of its bottom. Under ordinary circumstances, with wood and shavings, eight inches or a foot is sufficient; but without wood, eighteen inches, or even more, would be required.

To protect the ballast from being worn and injured by the horses' feet and the wheels, about three inches of gravel, or other hard material, is required to cover it.

There is no reason why a road thus constructed should not equal in durability any of the Roman roads, some of which are to this day in good preservation.

Burnt ballast makes excellent concrete; fully sifted or crushed it will do in lieu of sand for mortar, and for every purpose for which sand is used. It is also good for lightening heavy farming land; and picked, it answers for land drains.

GRATUITOUS EXHIBITION OF ART, AT THE PANTHEON, OXFORD-STREET.

(Concluded from our last.)

The cartoons placed on the staircase of the Pantheon show the clemency of that great philosopher, statesman, and king, Alfred, in contrast with the brutality of a royal prize-fighter, whom history delights to glorify.

Alfred, whose reign was constantly disturbed by Danish invaders, in spite of these provocations, twice released the wife and children of Hastings, the Danish general, saying that "he warred not with women and children." This instance of clemency has been ably portrayed in the cartoon by Messrs. Foggo. A Saxon, bearing his murdered infant, urges the king to revenge; a liberated bard, the poet and priest of the invading Danes, appears struck with wonder at such unusual generosity on the part of a deeply-injured monarch.

On the opposite side is Edward the Third, insulting his conquered foe, Sir William Wallace. So far did this royal bully carry his fierce rage that he refused to allow the hero of Scotland the last rites of religion! but the Archbishop of Canterbury nobly persisted in performing the duties of his sacred office after the friars had been compelled by the king to retire.

The figure of Wallace chained to the gibbet and crowned in derision with oak-leaves, is finely conceived, and drawn with great power; the head of the archbishop is full of dignity and firmness. Edward the Third and a mastiff form an appropriate group, and are properly put into shadow, being literally the dark passage of the picture. Of Haydon's other pictures, the two most important are illustrative of uncontrollable power; in one case the horrors of despotism, in the other the injustice of democracy. These formed part of the series upon which Haydon was occupied at the time of his melancholy death. The "Banishment of Ari-ides," one of his finest pictures, was exhibited in an empty room at the Egyptian Hall at the same time that the Tom Thumb mania was exclaiming the town in crowds to see the dwarf. The fact appears to have filled his cup of bitterness, for soon after this entry in Haydon's diary he destroyed himself.

The head and figure of the banished patriot are finely drawn. The great and good man appeals to heaven; his wife, bearing a babe, leans on his arm; the drapery of this figure is designed in a truly grand style. Their son, Lysimachus, is on the right of Ari-ides. Near to Ari-ides, a venerable archer, full of shame at the event, appeals in vain to Themistocles, who enjoys the disgrace of his virtuous rival. The surrounding figures in the crowd are well designed, and are scarcely restrained from resorting to personal violence. On the right of the picture, an old man stoops down to pick up a stone, probably to hurl at Ari-ides. This foreground figure is the worst in the entire composition, it being feebly drawn, and devoid of the proper light and shade.

As a lesson in politics it is one calculated to work good, especially in young minds, which are so apt to become captive to the arguments of democrats. The other picture by Haydon does not possess the same amount of general interest in composition, but it also conveys a salutary lesson, the more so

from the present warlike aspect of events in Europe. It differs little in a vision what a despot, like Nero, fiddles while Rome is burning, for his particular amusement, or a despot drags his serfs to war with unoffending nations, for his own private gratification, for the time destroying the commerce of Europe, and the public and private fortunes of several nations. Of the two, the act of the monster Nero, execrated for his cruel deeds, is the least in atrocity; for the burning of a great city, and the loss of life under these circumstances, cannot equal, in amount of moral guilt, the dragging of nearly a million of men from their homes, then setting them to murder each other, and destroy towns, villages, and fleets without number, simply because it is the pleasing of one man to command it. Like another hero, Nero sits quietly in his palace, enjoying himself amidst every luxury, singing his own praise, while devastation on every side delights him. Secured behind double lines of guards, he neither fears retribution, nor does he hear the groans and execrations of his victims. The flames of his magnificent capital rise to his delighted view; and in the fiendlike enjoyment he manifests, the possibility of a revolt against arbitrary power never suggests itself. Nero's time came, however; Rome endured the monster for fourteen years; his life was at length declared to be forfeited by the Senate, and at a cowardly attempt at suicide, the trembling monarch begged a slave to put an end to his miserable existence. Haydon, in this picture, has produced a rich effect of colour. Nero is finely drawn, and surrounded by fruits, vases, and furniture of the richest description—all helping the general intuition. He touches the lyre with great elegance of manner. The picture is entitled, "Nero burning Rome; illustrative of the Horrors of Despotism."

Our limits will not permit a more lengthened critique at present; but we propose to notice in a future number other pictures in this valuable and gratuitous art exhibition.

Correspondence.

A PLEA FOR PAINTING.

To the Editor of the Illustrated Crystal Palace Gazette.

SIR,—Where so much has been proposed, and that much so admirably done, it would appear but ungracious to offer any opinion save that of unqualified assent to everything proposed to be accomplished by the Company of the Crystal Palace.

A task so Herculean as that undertaken by the directors of the arrangements, external as well as internal, will, however, be brought to a comparative close before much longer time has elapsed—the time announced for the opening being May, a great change, therefore, will soon take place in the interminable galleries and aisles of the Crystal Palace.

As soon as the enormous figures of the Memmons are completed in the place of honour, and the other specimens of colossal sculpture are fixed, the thousands of busts and statues can be finally arranged, and the world's contribution of manufactures suffered to flow, like a tide, over the interior of the Palace.

With preparations for exhibiting, on the grandest possible scale, almost everything new and old under the sun, it seems extraordinary that "painting," especially the muse of history, should have no place assigned to her in the Crystal Hall. Doubtless, reasons sufficiently weighty have induced the preference given to other works of art over painting—perhaps the value set upon space may be considered very much beyond any sum that an artist may be disposed to pay for it. This point, however, admits of two views of the question. In the event of a gallery for the sale of *small* pictures being decided on, artists would readily pay a sum for the hanging of small and saleable works of art; but in the event of the directors admitting large historical works—these, of course, unsaleable—it would appear that the wall space they would occupy should be considered as a portion of the general attraction of works of art in the building, and no more to be charged for than the gates of Ghiberti, or the sculptures by modern artists.

There have been accumulating in this country numerous large historical works, varying of course in degrees of talent, but for want of proper places in which to exhibit them, now lying rolled up in warehouses and other places. The contributions to the exhibitions at Westminster Hall were numerous, and by no means so contemptible as some critics and travelled dilettante would fain make us believe. The fine works at Versailles, we can remember, are far from equal in talent, nor were they the result of a sudden impulse. Rome was not built in a day—neither was Versailles.

Considering the scanty encouragement given to English art in this country, England may bid defiance to the sneers of her own autocrats in art, and feel assured that English historic art is to the full worthy of the encouragement she receives.

Suppose, therefore, that notice were given by the directors that a glass-roofed gallery would be constructed, wherein to place large historical works from our own country, France, Germany, Belgium, Holland, America, and Austria; would not a wonderfully interesting exhibition be the result? Such a scheme, to be carried out on a grand scale, belongs especially to a company with such stupendous work in hand.

Brick or iron walls, iron frames, and a glass roof, are all that would be required, and the walls covered with double duty, by hanging pictures on both sides in the event of an overflow.

Those who have seen the ingenious contrivances of our French neighbours to accommodate an unexpected influx of works of art to their exhibitions, can easily see how readily glass picture galleries could be constructed by the authorities at the Crystal Palace; for instance, build running walls of brick or of iron open frame work any length which might be necessary, and enclose the space with a glass roof; the two sides of this long gallery would form a grand exhibition room; if the overflow of great works of historic art required more space, another wall would give double wall space, because in that case both sides of the middle wall would be rendered available.

Not only would a most interesting exhibition thus be produced, the excellences of the continental schools would meet the English eye, stimulate the public taste to the encouragement of historical art, and correct and improve at the same time the taste of the public and of the artist, by exhibiting in one building the best available works of the continental schools of art.

In England, private enterprise achieves for the honour of fine art, and industrial art, that which in other civilized countries is done by the government. For whatever nationality may have attached to the Great Exhibition in Hyde Park, it was, nevertheless, effected by private contributions of money chiefly resulting from the respect and affection with which Prince Albert is regarded by the nation.

The present undertaking at Sydenham is also the result of private enterprise; but its gigantic scale confers on it a reputation honourably associated with the country—the subscriptions of whose inhabitants as shareholders have realized this astonishing result; it should become, therefore, to the arts, sciences, and manufactures of the world, but of England especially, a substitute for the great and governmental patronage which produced Versailles, the Louvre, the Luxembourg, and other public museums of Art in continental cities.

Let us hope, therefore, that the directors of the Crystal Palace Company will not ultimately discard painting from the circle of intellectual attractions concentrated in their temple dedicated to the worship of nature and art.

Hitherto, it has been the misfortune of art that all the public buildings set apart or chosen for the display of works of art, have been too small. This fact, as regards the Royal Academy and other places of exhibition, is so fully admitted, that it were idle to say another syllable respecting it. The only chance English art ever had was that afforded by the competition under the auspices of the Royal Commissioners of Fine Arts, and held in Westminster Hall. The great interest which was excited in the public mind by the cartoons and pictures in oil-colours and fresco may surely be taken as a strong indication that the public, as a body, can enjoy works in the highest style of art, and that, therefore, historical works, if exhibited at the Sydenham Palace, would really prove one great source of attraction amongst the many others.

With the vast resources of the Crystal Palace Company, the proposition is of easy accomplishment. Space is to them obtainable, and the ease with which buildings constructed of glass can be altered, enlarged, or otherwise adapted to particular purposes, renders this new era in construction one almost discovered as it were for the especial purpose of building picture galleries. The muse of historical painting looks eagerly and anxiously to the Crystal Palace for admission; it is to be hoped, for the honour of English historical art, that she will not be excluded. At present fine art is represented by sculpture—which is nobly represented—been viewed only as an adjunct to architecture in the beautiful and highly-interesting courts of the Sydenham Palace.

Surely the art of Apelles, of Michael Angelo, of Raffaele, deserves higher consideration from the directors of so gigantic a palace of art and manufacture as that at Sydenham!

Yours, &c., PICTOR.

ANTIQUITIES.

To the Editor of the Illustrated Crystal Palace Gazette.

SIR,—Might not the Crystal Palace be rendered a charming receptacle for portions of tessellated Roman pavement, &c., such as those recently discovered in Broad-street? Beautiful specimens exist in England, and if they were carefully preserved and facilities were afforded for public inspection, the benefit conferred on artists would be great.

A very beautiful piece of tessellated design exists at Handborough, not far from Woodstock. It is scarcely protected by a sorry thatched roof. If the Duke of Marlborough valued it as it ought to be valued he would take better care of it. If he does not wish to resign it he would undoubtedly allow it to be copied. It is of a beautiful geometrical pattern, and might easily be reproduced.

Thousands of beautiful vestiges of the past have been heedlessly cast away as worthless. I trust the proprietors of the Crystal Palace will not forget their own interests by neglecting to gather up stray fragments of antiquity. The crystal halls of Sydenham may become something more worthy than the Hotel de Clugny Museum. In embracing the present, and grasping at the future, we need not necessarily despise the past.

I am, Sir, yours, most respectfully,
JOSHUA DRYSDALE.

THE NEW CRYSTAL PALACE.

To the Editor of the Illustrated Crystal Palace Gazette.

"Prize not the skill of foreign realms alone,
Nor deem it taste to stigmatize your own."
M. A. SHER, P.R.A.

MR. EDITOR,—Having of late had frequent opportunities of witnessing the surprising progress that has been made in the various courts throughout the People's Palace, I have been unspeakably pleased with the general design and high finish displayed throughout the whole, and which will, doubtless, stand the test of the most fastidious eye of the artist, artisan, or connoisseur, come from what country he may; still there is something awaiting; and not to argue the matter, I would, with all due respect, simply urge the directors and other men of taste connected with this mighty undertaking to add, by all manner of means, an English or British Court to those already erected, which would, I believe, just make up the dozen, and be as interesting to many, especially foreigners, as the Egyptian, Italian, or other courts may be; for our continental friends will naturally expect the greatest effort to be made to exhibit the amount of skill that can be produced in the country they are come to visit, as we would be in visiting theirs. To this end I would humbly suggest that a sufficient portion of the interior be allotted exclusively for the choicest works, original or otherwise, which have been produced by our most eminent sculptors, painters, and engravers; and that the architect also may have an opportunity of displaying his talent, let the "Five Orders" be exemplified, to a certain extent, in so many divisions of the British Court, introducing models of St. Paul's and other temples of celebrity throughout the land we live in. But as all this cannot possibly be accomplished this year, let us look forward with hope for the next; and should the want of space be considered as a barrier to this proposition, methinks the ethnological and zoological preparations may with great propriety be removed to some portion of the spacious grounds in the vicinity of the lake and island containing representations of the antediluvian world, where some cave-like construction might be erected without *paint or pillar*, and of sufficient magnitude to answer all the purposes required. And here, too, Sir Joseph Paxton's taste would be displayed to much greater advantage in the arrangement of his rare and multifarious collection of plants, which, like the group of Indians, and the ferocious animals they are contending with, will, it is presumed, seem somewhat more appropriately placed than on the boarded floor of their present situation.

With my warmest wishes for the success of the Crystal Palace in all its bearings,

I remain, Mr. Editor, yours, &c.,
AN OLD ARTIZAN.

Sydenham-place, April 26, 1854.

PATENTS.

To the Editor of the Illustrated Crystal Palace Gazette.

SIR,—Allow me to call the attention of the promoters of good institutions to the subject of Patents, through your interesting columns. Many good and scientific inventions have been lost to this our age of progress, especially by those individuals of limited circumstances, in consequence of not being protected or assisted by some wise law of Government.

The case at present stands thus:—A man, poor in pocket, but endowed with the best of all riches, a productive mind, invents a machine, and because he cannot find means to take out a patent, it is thrown away and lost to society. Now, supposing some affluent and enterprising persons were to commence an institution where a man might enter and deposit the realization of his imaginative powers, and, if approved of by a committee of the learned, formed for the office of decision, it be entered and sealed by Government as a *bona fide* production of that person, not to be copied or appropriated by another. Unless a man came forward supplied with that best of business tools, "money," and liked to purchase said invention, with the full consent of the inventor, let him do so. Do you not think that this mode would cause arts and sciences to flow more rapidly on without a check? Would it not encourage individuals who are at present afraid to peep into the area of the circle of glory, and competition to strike boldly and bravely, with the full assurance that their labours will not be in vain? Some patents are of very little use to patentees, even when under great difficulties they are obtained, because people have not, under existing circumstances, the spirit to follow it out. Look at every new invention at the first starting, from the great and noble railway to the common lucifer match, is not everything despised, more or less? At the first starting, even the Crystal Palace itself was in a "small" way, and by a "small" man, at first condemned as being an absurd undertaking; thanks to larger and more comprehensive minds we now behold it as about to dawn upon the spring of glory.

Does it not suggest itself to be the most practicable, viz., that those enterprising projectors of the People's Palace should start such an institution as I have endeavoured to describe? Then the poor but ingenious man can boldly avail himself of the grand opportunity offered of exhibiting at once in the same place and time to the world in miniature, that which has, perhaps, cost him for the good of his country many a sleepless night and racking brain.

I am, sir, your obedient servant,
ONWARD.

TEETOTALISM IN SCOTLAND!

GOUGH'S LECTURE IN DUMFRIES.

"I BEG your pardon, man, but your foot has been resting on my ears for the last five minutes." "Do pray, take your arm out of my side, sir, your elbow has fixed a stitch there." "Such heat! confound these windows, can they not be opened now? I shall have to retire." "Take care of the child, you cruel man—you are squeezing its bonnet." "Is your father a scholar, young man, that he expects people to see through your 'rate'?" "Open the door, or I'll—." "Have out that fainting lady." "Stand aside." "Come down." "Get up." "No you shan't." "You're another." "Silence," and a thousand similar ejaculations, entreaties, and denunciations, went to swell the thickening hum that ran through the large hall in which the collective curiosity of the town had assembled to get a sight of the popular orator. Who is it in the world? The swaying multitude answers you, and "There he is." "That's himself." "Oh, the darling!" "Hold your tongue." "No it isn't—it's a minister." "Yes, it is—it's Gough." "Hurrah!" are the contradictory, though in the last sense, complimentary, statements that meet the ear. A pale-faced, thin young man, comes on to the platform. The chairman, a wheezy gentleman, with gold spectacles low down on his nose, begs to mention (to the manifest relief of three-fourths of the audience) that this is Mr. Gough, and craves an indulgent hearing for a man so remarkable in his life, and so powerful in his eloquence. (Tremendous cheering, the glazier young man holding on by the gallery, and waving his hat.) And now comes the lecture. One or two things strike us as Mr. Gough proceeds. He has a fine flow of appropriate language—at one moment ambling juintly on in an anecdote; then swelling into a moving and heart-touching pathos; but throughout all going directly to the point, and neverquetting with choice words or sounding sentences for the sake of effect. He is a fine actor.* What vivid pictures! What telling home-thrusts! What stirring appeals, clothed in language by turns so powerful, so graceful! What a pale-faced hush creeps through the mighty throng as the earnest man moves to and fro in the fiery gestulation of his marvellous and blood-curdling illustrations! What an agony of excitement finds relief in that torrent of applause! What shouts of lighter rime, the old roof at the recital of his ludicrous imagery, and more ludicrous denunciations.

The lecture set us a thinking. An earnest admiration of temperance has produced in our minds many happy thoughts, and pictured many pleasant scenes, in connexion with its general adoption. Results of unmitigable efficacy have shown the essential excellence of its fundamental principle. Facts and figures condemn the evil which temperance denounces; science exposes them; reason repels them; religion denounces them; experience, that unshaken witness, bears an awful testimony against them; while the falling repute of their advocacy goes to demonstrate the hopelessness of their secure existence. How comes it, then, with all this panoply and "circumstance of war" on its side, that the sphere of action of temperance has been so limited, its efforts so crippled, its success so partial? How comes it that among the middle and wealthier classes it has made so little progress? How comes it that societies dwindle away into a noisy mockery of existence after a year or two's noisy bustle, and then, like the "Penny Dreadful," in the shape of lecturers such as Gough, to set it up on legs for another brief period of tracts and tribulation?

An approximation, perhaps, to a true answer to these questions may be found in the circumstance that tee-totalism is a *movement*. It has, we sincerely believe, been most injudiciously, though perhaps thoughtlessly, made the vehicle of religious dissent, and thus divide society into sects. On one subject its enterprizans would make a whole community think alike; and this, from what we know of man's nature, can never be accomplished. Instead of inculcating a principle, it has established a system—instead of working steadily for an end, its resources have been a series of orations. Instead of attracting men by a calm and tolerant consideration of opposite opinions, it has disgusted many by its unfortunate zeal and uncompromising energy of expression. No doubt the evil is great, and the remedy good; but glorification and boasting, challenges, bravadoes, and abuse, are not fitting accompaniments for the spread of so excellent a cause.—*Sanfries Courier*. D. M.

FRUIT AND FLOWERS can be preserved from decay and fading by immersing them in a solution of gum-arabic in water two or three times, waiting a sufficient time between each immersion to allow the gum to dry. This process covers the surface of the fruit with a thin coating of the gum, which is entirely impervious to air, and thus prevents the decay of the fruit, or the withering of the flower. Our friend has roses thus preserved which have all the beauty and fragrance of freshly plucked ones, though they have been separated from the parent stem since June last. To insure success in experiments of this kind, it is so to be borne in mind that the whole surface must be completely covered for if the air only gains entrance at a pin-hole, the labour will all be lost. In preserving specimens of fruit, particular care should be taken to cover the stem, end, and all with the gum. 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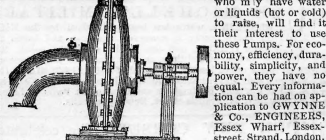
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